

REMARKS

The Applicant appreciates the time taken by the Examiner to review the Applicant's present application. This application has been carefully reviewed in light of the Examiner's comments, including the Office Action mailed April 17, 2008. The Applicant respectfully requests reconsideration and favorable action in this case.

Finality of rejection

The Applicant notes that the Examiner was contacted by telephone on May 20, 2008 to discuss the finality of the rejection. The Examiner agreed that, because some of the claims in the application were rejected based upon art not previously of record, and because the new ground of rejection was not necessitated by the Applicant's amendment, the Office Action should not have been made final. The Examiner therefore withdrew the finality of the Office Action.

Summary of rejections and amendments

The Examiner previously rejected claims 1, 3, 5, 8-11, 14, 16 and 20-23 under 35 U.S.C. §102(b), and claims 2, 4, 6, 7, 12, 13, 15, 17, 18, 19 and 24 under 35 U.S.C. 103(a). The Applicant has amended claims 2, 8 and 21. Claims 1-24 are therefore pending in the application.

Rejections under 35 U.S.C. §102

Claims 1, 3, 5, 8-11, 14, 16 and 20-23 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Application Pub. No. 2001/0010482 ("Oki"). The Applicant respectfully traverses this rejection.

In order to anticipate a claim, the reference must teach every element of the claim. The elements must be arranged as required by the claim, and must be shown in as complete detail as is contained in the claim. M.P.E.P. 2131. The Applicant respectfully submits that the Oki reference fails to disclose the elements of the claims, as arranged in the claims, and in as much detail as is contained in the claims. Oki therefore fails to anticipate the claims.

As to claim 1, the Examiner states that Oki teaches all of the limitations of the claim, including low-pass filters configured to receive and filter signals received from the sensors, providing the filtered sensor signals to the controller and providing a programmable response based on the filtered sensor signals. The Applicant respectfully disagrees.

The Examiner states that the low-pass filters are taught by counter 44 and Comp2 in Figure 9. It is apparent from Figure 10, however, that counter 44 does not filter a sensor signal, but merely counts upward until it is reset. Oki further states that comparator Comp2 asserts the NG trigger signal whenever the count in counter 44 reaches a predetermined number n. Thus, the components of Oki cited by the Examiner appear to assert the NG trigger signal periodically whether the sensor detects a dangerous condition or not. (see also paragraph 0074, which states that there is a maximum delay before turning off transistor Tr11.) Counter 44 and Comp2 therefore fail to filter the sensor signal as recited in the claim.

In regard to the limitation of the controller providing a programmable response based on the filtered sensor signals, the Examiner states that the system of Oki "responds via Sng and Scl signal". No other support or specific passages or figures are cited by the Examiner. The Applicant respectfully points out that it is not apparent from this citation how Oki teaches programmable responses to sensor signals. The Applicant notes that the signals cited by the Examiner as the filter sensor signals (produced by Comp1, counter 44 and Comp2) are hard-wired to the input of AND gate A11 to shut off transistor Tr11 (see Fig. 9 and paragraph 0046, lines 13-16.) There is nothing programmable about this response. Oki therefore fails to teach this limitation of the claim.

For at least these reasons, the Applicant submits that the Oki reference fails to teach all of the limitations of claim 1 as required by M.P.E.P. 2131. Consequently, a prima facie case of anticipation has not been established as to this claim. Independent claim 14 includes limitations that are substantially similar to those discussed above. Oki therefore fails to anticipate claim 14 for the same reasons set forth above with respect to claim 1. Further, because all of dependent claims 3, 5, 8-11, 16 and 20-23 depend from either claim 1 or claim 14 and incorporate the limitations discussed above, they are also distinguished from Oki for the same reasons set forth above with respect to claim 1.

The dependent claims also include additional limitations that further distinguish the claims from Oki. For instance, claims 8 and 21 recite that the accumulators are configured to increment when the sensor output signal is asserted and to decrement when the sensor output signal is not asserted. This incrementing and decrementing operation is distinguished from the increment-only operation of the counters in Oki.

For at least the foregoing reasons, the Applicant submits that Oki fails to anticipate claims 1, 3, 5, 8-11, 14, 16 and 20-23. The Applicant therefore respectfully requests that the rejections under 35 U.S.C. §102 be withdrawn and the claims allowed.

Rejections under 35 U.S.C. §103

Claims 2, 6, 7, 12, 13, 15, 18, 19 and 24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Oki. Claims 4 and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Oki in view of U.S. Patent No. 6,396,250 ("Bridge"). The Applicant respectfully traverses these rejections.

In order to establish a prima facie case of obviousness under 35 U.S.C. 103, the prior art references must teach or suggest all the claim limitations. M.P.E.P. 2143. The Applicant respectfully submits that the prior art references do not teach or suggest all the claim limitations, so a prima facie case of obviousness has not been established in accordance with M.P.E.P. 2143.

Each of the dependent claims that have been rejected under 35 U.S.C. §103 includes the limitations of low-pass filtering the sensor signals and providing a programmable response to the filtered signals. As explained above, these limitations are not taught by Oki. The Examiner does not contend that they are taught by Bridge. Claims 2, 4, 6, 7, 12, 13, 15, 17, 18, 19 and 24 are therefore patentably distinguished from Oki and Bridge.

Further, as to claim 2, the Applicant notes that the claim has been amended to specify that the programmable response to the filtered sensor signals is selected from a group that includes compressing at least a portion of the audio signals, similar to claim 13. The Examiner indicates in regard to claim 13 that compressing the audio signals is taught by Fig. 3 (out1) of Oki. The Applicant submits that out1 as shown in Fig. 3 is incorrect – Oki states at paragraph 0046, lines 13-16 that A11 (which generates out1) AND's IN1 and S_{NG}. As is well known in the art, the AND operation would cause IN1 to be 0 when S_{NG} is asserted – it would not compress the signal as recited in the claim. Claims 2 and 13 are therefore further distinguished from Oki.

As to claims 4 and 17, the Examiner states that Oki fails to teach the use of current sensors or the adjustment of high-side and low-side signal delays to minimize shoot-through current. The Examiner states that Bridge teaches adjusting delays between high-side and low-side signals to minimize shoot-through current. The Examiner states that the motivation for combining the references would be "to distribute the maximum power via maximum transistor on time, while insuring no shoot-through current."

The Applicant points out that Bridge alters the PWM pulses (see Fig.10) by delaying only the rising edge of one of the signals (high-side or low-side). This does not necessarily affect the overlap of the high-side and low-side signals and the resulting shoot-through current. Further, Bridge points out that the purpose of delaying the rising edge of one of the signals is to adjust the output voltage – if the high-side signal is delayed, the output voltage is reduced, and if the low-side signal is delayed, the output voltage is increased. Because Bridge adjusts the timing of the signals without regard to shoot-through current, the Applicant submits that this reference, as well as Oki, fails to teach the limitation of claims 4 and 17.

As to the motivation for combining Oki and Bridge, the Applicant disagrees with the Examiner's reasoning. Regarding the distribution of maximum power via maximum transistor on-time, the Applicant points out that Bridge delays the high-side and/or low-side signals to reduce the power. Moreover, the more one of the signals is delayed in Bridge, the more shoot-through will occur (as the signal edges move away from each other.) There is no teaching in Bridge that shoot-through is even taken into account. The Applicant therefore submits that Bridge teaches away from the limitation of minimizing shoot-through, so a person of ordinary skill would not be motivated to combine Bridge with Oki.

For at least these reasons, the Applicant respectfully submits that claims 2, 4, 6, 7, 12, 13, 15, 17, 18, 19 and 24 are not obvious, either from Oki alone, or in combination with Bridge. The Applicant therefore requests that the rejections be withdrawn and the claims allowed.

Conclusion

The Applicant has now made an earnest attempt to place this case in condition for allowance. Other than as explicitly set forth above, this reply does not include an acquiescence to statements, assertions, assumptions, conclusions, or any combination thereof in the Office Action.

For at least the foregoing reasons, the Applicant respectfully requests allowance of all claims pending in the application. The Examiner is invited to telephone the undersigned at the number listed below for prompt action in the event any issues remain.

The Applicant hereby petitions for a one-month extension of time for the filing of this response. The appropriate fee is submitted herewith. If any additional extensions of time are necessary to prevent the above referenced application from becoming abandoned, the Applicant hereby petitions for such extensions. If any fees are inadvertently omitted, or if any

additional fees are required, or if any amounts have been overpaid, please appropriately charge or credit those fees to Deposit Account No. 50-3085 of the Law Offices of Mark L. Berrier.

Respectfully submitted



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Dated: _____

8/16/08

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